

Swivel

10PXV, 15PXV, 20PXV, 25PXV, 30PXV



Illustration represents one possible configuration. The swivel can be equipped with trunnion pins to fit rig requirements.

For rigs equipped with mechanical pulldown

The bearings are angular-contact type ball bearings. Weight of the drill pipe (downthrust) is carried on a duplex unit. The (2) two bearings in this unit are flush ground on the faces, and matched so that each bearing will support its share of the load.

Reverse loads (upthrust) are absorbed by double bearings that are mounted opposed to the downthrust unit.

The type of bearings and the manner in which they are mounted provide ample radial capacity to stabilize the swivels.

The packing unit consists of (2) two molded, composition rubber rings. An extremely hard wear ring (wear bushing) is placed between the two rubber rings. These rubber rings and the wear bushing replace the washpipes and stuffing boxes that are used in conventional swivels.

These swivels can be repacked, within a few minutes, without "breaking out" any connections. Adjustment of the packing is not required and no means of adjustment is provided.

The 10PXV Swivel is applicable to small water well, geophysical and core drilling rigs.

The 15PXV Swivel is suited to medium size water well, geophysical and core drilling rigs.

The 20PXV Swivel operates efficiently on medium and large water wells, large core drilling and geophysical drilling rigs.

The 30PXV Swivel is ideal for large water well rigs, and is extremely useful when reaming down for pit and underreaming, prior to graveling operations. Centrifugal pumps are frequently used for circulating through this swivel.

This swivel is not recommended for high speed rotation, because the large diameter packing may fail, due to generation of frictional heat.

Features in Brief

- Oversize watercourses permit circulation of more drilling fluids.
- Molded rubber composition packing eliminates the usual stuffing boxes.
- Hardened wear bushings eliminate conventional washpipes.
- Packing and wear bushings are quickly renewable.
- Multiple ball bearing units provide ample thrust and radial capacities.
- Sealed housings protect the bearings and retain lubricant.
- Grease lubrication of the bearings is accomplished through a readily accessible fitting.

Instructions for Lubricating

There is a grease fitting set in a recess, near the bottom of the bearing housing. This fitting is to lubricate the bearings.

Use only a good grade of neutral mineral grease that is free of all substances such as graphite or mica. Either soda soap base or lime soap base greases are satisfactory.

Lubricate every 2-3 hours of operation. If too much grease is used, the excess will squeeze out past the upper housing seal.

A slight amount of grease may be thrown from the swivel when new and after each time it is lubricated. This is of no consequence.

Pulldown Yokes

Yokes are made of steel. The ends are left unfinished unless the customer can furnish sufficient information to enable us to make the yoke to fit the mast.

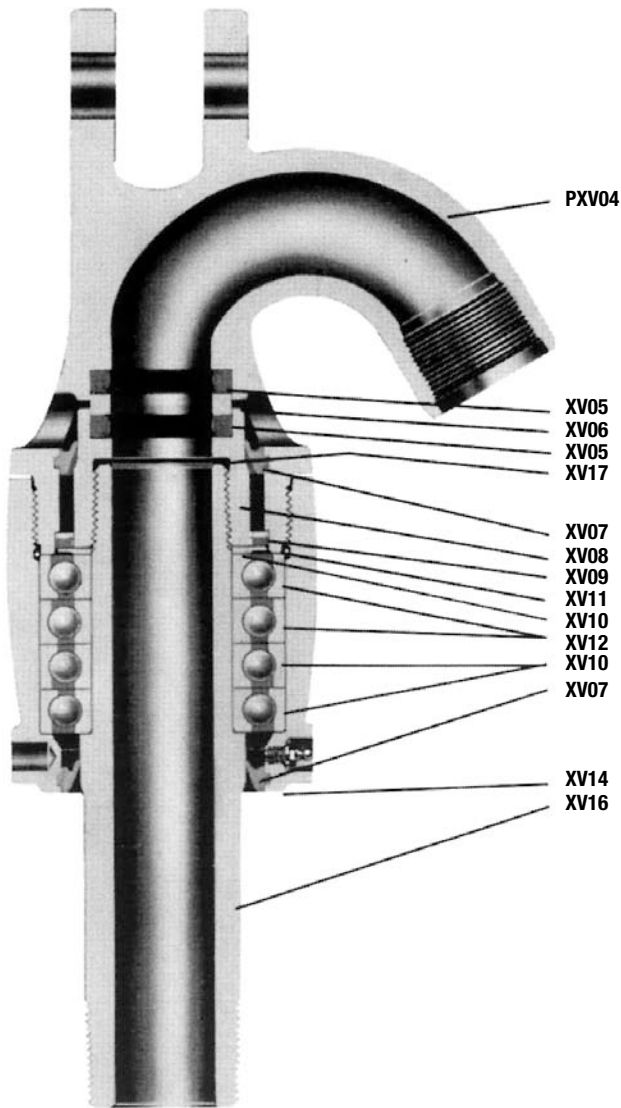
Weights and Dimensional Data

Type Swivel	Weight lbs.	Length Overall	Working Length	Lower Conn., Drill Pipe Thread, LH	Hose Connection	Diameter Watercourse
15PXV	95	29"	24"	2 7/8" O.D. 8-V	2" NPT	2"
20PXV	125	31"	26"	3 1/2" O.D. 8-V	2 1/2" NPT	2 1/2"
30PXV	185	35"	30"	4 1/2" O.D. 8-V	3" NPT	3"

Capacities and Safety Data

Type Swivel	Capacity, lbs. at 100 R.P.M.	Safe Load Limit, lbs.	Safe Depths (Feet) With Drill Pipe		
			2 3/8" 6.65 lbs.	2 7/8" 10.4 lbs.	3 1/2" 13.3 lbs.
15PXV	20,000	30,000	2,100	1,300	-
20PXV	27,000	40,000	2,700	1,800	1,400
30PXV	32,000	50,000	3,200	2,400	2,200

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Parts List for Type 30PXV Swivel

Part Number	Name of Part	Number Required	Net Weight lbs.	Spares for One Year Service
N30PXV02	Yoke Pin	1	5	...
N32GA11A	Yoke Pin Nut	2	1 1/2 (2)	...
N30PXV04	Gooseneck	1	53	...
N30XV05	Packing	2	1/4	8
N30XV06	Wear Bushing	1	2	2
N30XV07	Housing Seal	2	1/2 (2)	2
N30XV08	Spindle Nut	1	6	...
N30XV09	Shield Seal	1	1/2	...
N30XV10	Bearing Shield	1	3/4	...
N30XV11	Bearing Retainer Wire	1	1/8	...
N30XV12	Bearing*	4	16	1 set
N30XV14	Bearing Housing	1	42	...
N30XV15	House Lock Bolt	1	1/2	...
N30XV16	Spindle	1	37	...
N50KG17	Spindle Thread Seal	1	1/8	2

* When bearings are renewed, replace with a new matched pair. Do not renew one bearing in an old pair. 20PXV, 25PXV and 30PXV Swivels can be furnished with trunnion pins (similar to KM series) at additional cost.

Parts List for Type 10PXV Swivel (For Parts Only)

Part Number	Name of Part	Number Required	Net Weight lbs.	Spares for One Year Service
N10PXV02	Yoke Pin	1	1	...
N10PXV03	Yoke Pin Nut	2	1/2 (2)	...
N10XV05	Packing	2	1/8 (2)	8
N10XV06	Wear Bushing	1	1/4	2
N10XV07	Housing Seal	2	1/4 (2)	2
N10XV08	Spindle Nut	1	2	...
N10XV09	Shield Seal	1	1/8	1
N10XV10	Bearing Shield	1	1/4	...
N10XV11	Bearing Retainer Wire	1	1/16	...
N10XV12	Bearing*	4	6	4
N10XV14	Bearing Housing	1	9 1/2	...
N10XV15	House Lock Bolt	1	1/8	...
N10XV16	Spindle	1	7	...
N10XV17	Spindle Thread Seal	1	...	2

Parts List for Type 15PXV Swivel

Part Number	Name of Part	Number Required	Net Weight lbs.	Spares for One Year Service
N15PXV02	Yoke Pin	1	1	...
N15XV03	Yoke Pin Nut	2	1 (2)	...
N15PXV04	Gooseneck	1	24	...
N15XV05	Packing	2	1/4 (2)	8
N15XV06	Wear Bushing	1	3/4	2
N15XV07	Housing Seal	2	3/8 (2)	2
N15XV08	Spindle Nut	1	3 1/2	...
N15XV09	Shield Seal	1	1/4	1
N15XV10	Bearing Shield	1	3/8	...
N15XV11	Bearing Retainer Wire	1	1/8	...
N15XV12	Bearing*	4	10	4
N15XV14	Bearing Housing	1	16	...
N50KG15	House Lock Bolt	1	1/4	...
N15XV16	Spindle	1	15	...
N15XV17	Spindle Thread Seal	1	...	2

Parts List for Type 20PXV Swivel

Part Number	Name of Part	Number Required	Net Weight lbs.	Spares for One Year Service
N20PXV02	Yoke Pin	1	3	...
N30XV02	Yoke Pin Nut	2	1 1/2 (2)	...
N20PXV04	Gooseneck	1	38	...
N20XV05	Packing	2	1/4 (2)	8
N20XV06	Wear Bushing	1	1	2
N20XV07	Housing Seal	2	3/8 (2)	2
N20XV08	Spindle Nut	1	4 1/2	...
N20XV09	Shield Seal	1	3/8	1
N20XV10	Bearing Shield	1	1/2	...
N20XV11	Bearing Retainer Wire	1	1/8	...
N20XV12	Bearing*	4	13	4
N20XV14	Bearing Housing	1	28	...
N50KG15	House Lock Bolt	1	1/4	...
N20XV16	Spindle	1	22	...
N20XV17	Spindle Thread Seal	1	...	2

Parts List for Type 25PXV Swivel (For Parts Only)

Part Number	Name of Part	Number Required	Net Weight lbs.	Spares for One Year Service
N20PXV02	Yoke Pin	1	3	...
N30XV02	Yoke Pin Nut	2	1 1/2 (2)	...
N20PXV04	Gooseneck	1	42	...
N20XV05	Packing	2	1/4 (2)	8
N20XV06	Wear Bushing	1	1	2
N20XV07	Housing Seal	2	3/8 (2)	2
N20XV08	Spindle Nut	1	4 1/2	...
N20XV09	Shield Seal	1	3/8	...
N20XV10	Bearing Shield	1	1/2	...
N20XV11	Bearing Retainer Wire	1	1/8	...
N20XV12	Bearing*	5	20	5
N25XV14	Bearing Housing	1	33	...
N50KG15	House Lock Bolt	1	1	...
N20XV16	Spindle	1	32	...
N20XV17	Spindle Thread Seal	1	1/8	2